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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,986	12/11/2003	Andrea Karen Smith	06107D USA	8566

23543 7590 09/28/2005

AIR PRODUCTS AND CHEMICALS, INC.  
PATENT DEPARTMENT  
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ALLENTOWN, PA 181951501

EXAMINER

SERGEANT, RABON A

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/732,986	<b>Applicant(s)</b> SMITH ET AL.	
	<b>Examiner</b> Rabon Sergeant	<b>Art Unit</b> 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/11/03, 4/15/04</u> . | 6) <input type="checkbox"/> Other: ____  |

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1. It is requested that applicants' amend the continuing data within the specification to reflect the status of the parent application.
2. Foreign reference, DE 19957351 A1, cited within the Information Disclosure Statement of December 11, 2003 has not been considered, because it fails to comply with the provisions of 37 CFR 1.98(a)(3)(i).
3. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Firstly, applicants' use of both "comprising" and "consisting essentially of" within claims 1 and 11 is not permissible. The use of both the "open" and "conditionally closed" closed transitional phrases renders the claims indefinite to such an extent that there is no way of definitively determining exactly what the claims include or exclude. Furthermore, where the independent claims are closed to the inclusion of additional components, the dependent claims may not rely upon language that is open to a greater extent than allowed for by the closed language of the independent claims.

Secondly, applicants have failed to set forth the bases for the claimed weight percents of the perfect prepolymers, the free MDI monomer, and the NCO contents (functionality).

Thirdly, the use of "based" renders the term, "propylene oxide based polyether polyol" indefinite, because it is unclear to what extent the polyether polyol is based on or derived from propylene oxide.

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Fourthly, with respect to claims 9, 11, and 15, it is confusing to refer to the claimed quantity as NCO functionality; within the art, such quantities are conventionally referred to as NCO group content.

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-18 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,866,743. Although the conflicting claims are not identical, they are not patentably distinct from each other because each claim set is drawn to adhesives (prepolymers) derived from the reaction of 4,4'-MDI with polypropylene based polyol, wherein the respective prepolymers contain equivalent quantities of

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perfect prepolymers and free diisocyanate monomer. The position is taken that the instant prepolymers are not patentably distinct from the claimed adhesives, since the prepolymers will function as adhesives.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-4, 6-12, and 14-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Rosenberg et al. (US 2003/0065124 A1).

Rosenberg et al. disclose prepolymer compositions derived from the reaction of 4,4'-MDI with polypropylene glycols, wherein the disclosed glycols meet applicants' claimed molecular weight and equivalent weight limitations and the disclosed prepolymers meet applicants' claimed content of perfect prepolymers, free monomer, and NCO group content. See paragraphs [0057] through [0067] and Examples 6-8. Since the prepolymers are produced at index ratios that meet those disclosed by applicants, the resulting prepolymers inherently contain the instantly claimed quantity of perfect prepolymers. Additionally, due to their chemical nature, the disclosed prepolymers will inherently function as adhesives. Furthermore, for the relied upon subject matter, the reference is considered to have an effective date of November 30, 1999.

8. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (US 2003/0065124 A1).

As aforementioned, Rosenberg et al. disclose applicants' claimed perfect prepolymer containing composition; however, the reference is silent with respect to the polypropylene polyols being capped with ethylene oxide. Still, the position is taken that such polyols were conventional within the isocyanate prepolymer art at the time of invention, because the ethylene oxide cap causes the polyols to have primary hydroxyl groups, which cause the polyols to be more reactive. Accordingly, it would have been obvious to utilize such conventional, more highly reactive polyols as the polyol component of the disclosed prepolymers.

9. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Markley et al. ('415).

Markley et al. disclose perfect prepolymer containing compositions, wherein the composition is derived from the reaction of an excess of MDI with a polyol and further wherein

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the unreacted free isocyanate monomer is removed. The resulting composition contains quantities of perfect prepolymers and free isocyanate monomer that meet those claimed. See column 4, lines 16+; column 5, lines 1-14, 27, and 28; and column 6, lines 37-46.

10. Though patentees disclose polypropylene oxide polyols having applicants' claimed features, such as functionality and molecular weight, patentees disclose these polyols with other polyols and no particular preference is given to their use. However, given their disclosure as viable reactants, the position is taken that it would have been obvious to select them from the disclosed listing and to utilize them in the production of the prepolymers. Furthermore, with respect to claims 5 and 13, the reference is silent with respect to the polypropylene polyols being capped with ethylene oxide. Still, the position is taken that such polyols were conventional within the isocyanate prepolymer art at the time of invention, because the ethylene oxide cap causes the polyols to have primary hydroxyl groups, which cause the polyols to be more reactive. Accordingly, it would have been obvious to utilize such conventional, more highly reactive polyols as the polyol component of the disclosed prepolymers.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

R. Sergent  
September 22, 2005

  
**RABON SERGENT**  
**PRIMARY EXAMINER**